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UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH ADMINISTRATION
BUREAU OF ENTOMOLOGY AND PLANT QUARANTINE
Division of Forest Insect Investigations

Forest Insect Conditions
Mt. Pinos Ranger District, Los Padres N. F.
July - 1953

Reconnaissance Survey

On July 20, a party composed of C. B. Eaton, R. C. Hall and G. L. Downing of the Forest Insect Laboratory, Berkeley; J. L. Averell of the Regional Office, U. S. Forest Service, San Francisco; and Allen Sheldon, FCA Mt. Pinos Ranger District made a reconnaissance of the Mt. Pinos Ranger District to appraise at first hand insect-caused tree damage and mortality, past and present. This survey was undertaken in response to a request by the Forest Supervisor's Office for entomological assistance in evaluating the status of insect conditions in the District and determining the need for control. The areas visited included Mill Potrero, Mt. Pinos and Grade Valley.

There follows a brief discussion of insect conditions found within each area, the identity and status of currently important forest insect pests present, and recommendations in regard to control.

Mill Potrero

Status

In the Mill Potrero area practically complete killing of all age classes of Jeffrey pine (chiefly pole-sized trees) occurred in 1948 and 1949 over an area of approximately 20 acres. J. W. Bongberg, (formerly of the Berkeley laboratory) who examined the area in March, 1950, (memo to Forest Supervisor Los Padres National Forest, March 21, 1950) attributed the loss to a heavy concentration of the Oregon pine engraver (Ips oregoni (Eichh.)), and reported that in some cases the lower portion of engraver-killed trees had been attacked by the California flatheaded borer, Melanophila californica Van Dyke. Bongberg observed that the Oregon pine engraver outbreak appeared to have subsided during the fall of 1949 and that the infestation was not expected to continue. On the basis of evidence found in the current survey, this prediction seems to have been borne out. No current work of the Oregon pine engraver was found, although occasional dying trees on the periphery of the former outbreak were heavily infested with larvae of the California flatheaded borer. Frequent attacks by this species were prevalent in many of the green trees examined.

Recommendations

A resurgence of pine engraver damage in the Mill Potrero area does not appear to be likely, but this area should be kept under surveillance. The cutting and utilization of flathead-infested trees with broods in the fast-growing stage is advocated whenever circumstances permit. The borer pupates in the outer bark and adult emergence occurs between April and July; hence the infested trees should be cut in the winter or early spring and the bark destroyed before emergence takes place.

Mt. Pinos

Status

In the Mt. Pinos area the stand is composed almost entirely of Jeffrey pine with scattered white fir, incense cedar and pinon pine. Considerable tree mortality, past and present, is evident. Most of this loss occurs in Jeffrey pine and is attributable to the California flatheaded borer. Bongberg (op. cit.) considered this borer to be the only primary insect in Jeffrey pine in the area in his 1950 survey. It appears to have maintained its role in this capacity during the intervening period, for neither the Jeffrey pine beetle (Dendroctonus jeffreyi Hopk.) nor the Oregon pine engraver was observed in the present survey. Present losses date back at least to 1949, and since then have continued at a high level without interruption to the present. Current losses are serious and are generally distributed throughout the area. The past and present insect-caused loss makes up a considerable volume of pine timber, although the actual amount is at present unknown. A formal appraisal of loss, and a stand cruise are needed to determine accurately the amount and importance of the damage.

Mt. Pinos is an area that is becoming highly developed for both summer and winter recreational use. It possesses several fine campgrounds and organizational camps, and is accessible by an excellent paved highway that extends to an elevation of 7,600 feet. The topography ranges from gentle and rolling to fairly steep slopes. Because of its elevation and accessibility from nearby population centers Mt. Pinos is of considerable importance for winter sports.

Recommendations

1. A green stand cruise and a loss appraisal should be made of the Mt. Pinos area in the near future to determine the total timber volume, and the extent of current and past insect-caused loss. The distribution of the green stand in accordance with the California risk rating system should be determined, as well as the timber volume. It would be preferable to obtain stand and loss data in a cruise made jointly by Forest Service and Bureau of Entomology and Plant Quarantine personnel.

2. If logging is feasible for the area as a whole, a sanitation-salvage logging program should be instituted as promptly as possible to remove the high risk trees, salvable abandoned trees and those that currently contain developing flatheaded borer broods. Such has been done in a small sale made to the Mt. Pinos Lumber Company.

3. If logging is not generally feasible and steps toward a sanitation-salvage program cannot be taken in the near future, an attempt should be made to reduce losses by applying direct control measures in the immediate vicinity of campgrounds, organizational camps and other high priority areas. Control zones for each of these areas should be established, and a sustained effort made for a minimum period of three years to detect and destroy flatheaded borer infested trees before the broods have had a chance to develop to the adult stage and emerge in the spring. A program such as this has little precedent, and some test work would be necessary to determine appropriate methods for destroying the flathead broods.

Grade Valley

Status

Grade Valley is an area characterized by gentle, rolling topography and having a moderate to sparse stand of Jeffrey pine, intermingled with some pinon pine at lower elevations and a little sugar pine and big cone spruce at higher elevations. Sapling and pole classes predominate, with widely scattered old growth trees at intervals. The area contains a few campgrounds, is accessible by a dirt road, and is important primarily for recreational purposes.

Insect losses have been moderate to heavy during the past several years, with damage occurring in the young as well as the overmature components of the stand. Mortality in the larger Jeffrey pines has been due to the California flatheaded borer, while that in overmature sugar pine has been caused by the mountain pine beetle, Dendroctonus monticolae Hopk. In addition to these known tree killers, heavy infestations of scale insects were found on the needles of the Jeffrey pine understory. The species present are the black pine leaf scale, Nuculaspis californica (Coleman), and the pine needle matsucoccus, Matsucoccus fasciculensis Herbert, according to determinations made by H. L. McKenzie, State Bureau of Entomology. The black pine leaf scale infestation is the most serious, but the pine needle matsucoccus is also causing damage. These two insects are believed to be responsible for the death of many of the younger trees and the generally poor condition of the survivors. The damage is apparent over a considerable area, and it seems inevitable that further tree mortality will result if means cannot be found to control the scale infestation.

Recommendations

1. An appraisal should be made by the Forest Insect Laboratory to determine the extent of insect-caused loss in old growth trees, and to delineate and determine the severity of the scale infestation in the younger trees.

2. Control on a pilot-plant basis should be attempted against the scale insect infestations in young Jeffrey pines. Malathon at a rate of two to three pounds of the 55 percent wettable material per 100 gallons of water, plus one gallon of a very light summer oil, is recommended. The application should be made in early August when the scales are largely in the nymphal stage. This test should be carried out cooperatively by Bureau and Forest Service personnel.

3. Control zones should be established for campground areas, and a direct control program against the California flatheaded borer instituted as recommended for Mt. Pinos.

Forest Insect Laboratory
Berkeley, California
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